

WHAT IS CLAIMED IS:

1. A circuit board comprising:
a board; and

5 an external terminal portion formed on the board for connecting to an external apparatus;

wherein the above-mentioned external terminal portion is constructed by clad material that plural metal layers having different metal material each other are laminated.

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2. A circuit board according to claim 1, wherein the said external terminal is constructed by a first metal layer made of Cu, a second metal layer formed on the first metal layer and made of stainless steel, and a third metal layer formed on the second metal layer and made of Ni alloy.

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3. A battery pack comprising:

a case;

a battery installed in the case; and

a circuit board connected to the battery;

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wherein said circuit board is further comprising:

a board; and

an external terminal portion, which is formed on the board for connecting to an external apparatus, is constructed by clad material in which plural metal layers having different metal material each other are laminated,

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further wherein the above-mentioned case has an opening and the above-mentioned circuit board is located so that the above-mentioned external terminal portion faces outside from the above-mentioned opening.

4. A battery pack according to claim 3, wherein the said external terminal is constructed by a first metal layer made of Cu, a second metal layer formed on the first metal layer and made of stainless steel, and a third metal layer formed on the second metal layer and made of Ni alloy.

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5. A method for manufacturing a circuit board having a board and an external terminal portion formed on the board for connecting to an external apparatus, comprising:

a process producing a laminated member by laminating plural metal layers having different metal materials each other; and

a process forming a wiring pattern on the surface of the above-mentioned board and forming the above-mentioned external terminal portion by providing the above-mentioned laminated member on a pad of the wiring pattern.

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6. A circuit board module comprising:

a battery case storing a battery;

a circuit board for carrying out charge and discharge of the above-mentioned battery; and

a joint member for connecting the above-mentioned battery case and circuit board electrically and/or mechanically;

wherein the above-mentioned joint body is constructed by clad material that plural metal layers having different metal material each other are laminated.

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7. A circuit board module according to Claim 6, wherein at least one metal layer of the above-mentioned metal layers of the above-mentioned joint body consists of the same kind of metal material of the above-mentioned battery case.

8. A circuit board module according to claim 6, wherein the above-mentioned joint body is constructed by a first metal layer made of Ni and a second metal layer made of Al.

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9. A circuit board module according to claim 8, wherein thickness ratio of the above-mentioned first metal layer and second metal layer of the above-mentioned joint body is about 1:1 to about 2:1.

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10. A circuit board module according to any of claim 9, wherein the above-mentioned joint body is roughly rectangle and is used being bent at the designated position in longitudinal direction.

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11. A method for manufacturing a circuit board module having a battery case, a circuit board for carrying out charge and discharge of the above-mentioned battery, and a joint body for connecting the above-mentioned battery case and circuit board electrically and/or mechanically, further using the joint body according to any of claim 6 to claim 9, comprising:

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a process soldering the above-mentioned first metal layer side of one end of the above-mentioned joint body at a terminal portion formed on the above-mentioned circuit board by reflow process; and

a process welding the second metal layer side of the other end of the above-mentioned joint body.

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